

IN THE DRAWINGS:

Submitted herewith is a replacement sheet for Fig. 4 incorporating a revision to label Fig. 4 with the legend "Prior Art".

REMARKS

In the last Office Action, claims 1-3, 5-7 and 9-10 were rejected under 35 U.S.C. §102(b) as being anticipated by Odaohara (USPN 5,784,626). Claims 4, 8 and 11-13 were rejected under 35 U.S.C. §103(a) as being unpatentable over Odaohara in view of Okuda (USPN 7,023,107).

In accordance with the present response, page 13 of the specification has been revised to correct a minor informality. Original claims 1-13 have been amended to correct informalities and in formal respects to improve the wording and bring them into better conformance with U.S. practice. New claims 14-20 have been added to provide a fuller scope of coverage. A new abstract which more clearly reflects the invention to which the amended and new claims are directed has been substituted for the original abstract. A replacement sheet has been submitted for Fig. 4 to label the figure with the legend "Prior Art".

Applicants request reconsideration of their application in view of the foregoing amendments and the following discussion.

The present invention relates to an electronic equipment driven by electric power from a battery.

As described in the specification (pgs. 1-5), conventional electronic equipment driven by electric power from a battery cannot operate for a long period of time due to inefficient utilization of the electric power from the battery. As a result, the conventional electronic equipment cannot operate in a stable manner.

The present invention overcomes the drawbacks of the conventional art. Fig. 1 shows an embodiment of an electronic equipment according to the present invention embodied in the claims. The electric equipment has a battery 101 and an electric condenser 102 that has an internal resistance lower than that of the battery 101 and accumulates therein an electric power of the battery 101. A charge control circuit 103 controls a charge current originating from the electric power of the battery 102 and flowing from the battery 101 to the electric condenser 102. The charge control circuit 103 controls the charge current in accordance with a self-discharge rate of the battery 101. A load 104 is driven with the electric power accumulated in the electric condenser 102. By this construction, the electric power from the battery 101, which has a higher internal resistance than that of the electric condenser 102, can be efficiently utilized to power the electronic equipment with increased stability as compared to the conventional art.

The prior art of record does not disclose or suggest the subject matter recited in amended claims 1-13 and newly added claims 14-20.

Claims 1-3, 5-7 and 9-10 were rejected under 35 U.S.C. §102(b) as being anticipated by Odaohara. Applicants respectfully traverse this rejection.

Odaohara discloses a battery connecting device and a method for switching between batteries in the battery connecting device for powering electronic equipment. As shown in Fig. 1, Odaohara discloses a first battery 10 and a second battery 16 (identified by the Examiner as an electric condenser) each connected to an input terminal of a DC/DC converter 14 that supplies power to a computer. The first and second batteries 10, 16 are OR-connected via diodes 12 and 18 to the DC/DC converter 14. An AC/DC adaptor 20 is connected between the first battery 10 and the diode 12 and between the second battery 16 and the diode 18. Either the first battery 10 or the second battery 16 can be charged along charging routes (shown in dashed line in Fig. 1) originating from the AC/DC adaptor 20.

Thus in Odaohara the second battery 16 (i.e., the battery identified by the Examiner as corresponding to the electric condenser recited in claim 1) accumulates electric power from the AC/DC adaptor 20. In contrast, amended

independent claim 1 recites an electric condenser that has an internal resistance lower than that of the battery and accumulates therein an electric power of the battery. Stated otherwise, Odaohara does not disclose or describe that either of the first and second batteries 10, 16 accumulates an electric power from the other. In fact, it is clear from Fig. 1 of Odaohara that each of the first and second batteries 10, 16 accumulates electric power from the AC/DC adaptor 20, not from one another. Accordingly, Odaohara does not anticipate the structural and functional combination of the electric equipment recited in independent claim 1.

Amended independent claim 5 also recites an electric condenser that has an internal resistance lower than that of the battery and accumulates therein an electric power of the battery and, therefore, also patentably distinguishes from Odaohara.

Claims 2-3 and 6-7, 9-10 depend on and contain all of the limitations of amended independent claims 1 and 5, respectively, and, therefore, distinguish from Odaohara at least in the same manner as claims 1 and 5.

Claims 2-3 and 6-7 are separately patentable from the teachings of Odaohara. More specifically, claims 2 and 6 include the additional limitation that the charge control circuit controls the charge current so that a battery voltage

drop developed across the battery falls within a range of 5 to 20% of a battery voltage when the battery is in an open state. Claims 3 and 7 include the additional limitation that the charge control circuit controls the charge current so that a battery voltage drop developed across the battery falls within a range of 10 to 40% of a battery voltage when the battery is in an open state. No corresponding features are disclosed or described by Odaohara.

While acknowledging that Odaohara does not disclose the specific features recited in claims 2-3 and 6-7, the Examiner contends that one of ordinary skill in the art would have found it obvious, at the time the invention was made, to achieve the specifically claimed features as a matter of routine skill in the art. Applicants respectfully disagree with the Examiner's contention.

Anticipation under 35 U.S.C §102 requires the disclosure in a single prior art reference of each element of the claim under consideration. See, W.L. Gore & Associates v. Garlock, Inc., 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). Stated otherwise, there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. This standard is clearly not satisfied by Odaohara which, as acknowledged by the Examiner,

does not disclose or describe the specific features recited in claims 2-3 and 6-7.

Moreover, Odaohara does not suggest the claimed subject matter and, therefore, would not have motivated one skilled in the art to modify Odaohara's battery connecting device to arrive at the claimed invention.

In view of the foregoing, applicants respectfully request that the rejection of claims 1-3, 5-7 and 9-10 under 35 U.S.C. §102(b) as being anticipated by Odaohara be withdrawn.

Claims 4, 8 and 11-13 were rejected under 35 U.S.C. §103(a) as being unpatentable over Odaohara in view of Okuda. Applicants respectfully traverse this rejection.

Claims 4 and 8, 11-13 depend on and contain all of the limitations of amended independent claims 1 and 5, respectively, and, therefore, distinguish from Odaohara at least in the same manner as claims 1 and 5.

While disclosing a DC-DC converter as recited in claims 4, 8 and 11-13, the secondary reference to Okuda does not cure the deficiencies of Odaohara with respect to the subject matter set forth above for independent claims 1 and 5 from which 4 and 8, 11-13 respectively depend. Accordingly, one of ordinarily skilled in the art would not have been led to modify the references to attain the claimed subject matter.

In view of the foregoing, applicants respectfully request that the rejection of claims 4, 8 and 11-13 under 35 U.S.C. §103(a) as being unpatentable over Odaohara in view of Okuda be withdrawn.

New claims 14-20 also patentably distinguish from the prior art of record.

Claims 14-17 depend on and contain all of the limitations of amended independent claim 1 and, therefore, distinguish from the prior art of record at least in the same manner as claim 1.

New independent claim 18 is directed to an electric equipment and requires a battery, an electric condenser that has an internal resistance lower than that of the battery and accumulates therein an electric power of the battery, and a charge control circuit that controls a charge current originating from the electric power of the battery and flowing to the electric condenser so that when a self-discharge of the battery is less than 10%, a battery voltage drop across the battery falls within a range of 5% to 20% of a battery voltage when the battery is in an open state, and so that when the self-discharge of the battery is equal to or larger than 10%, the battery voltage drop of the battery falls within a range of 10% to 40% of the battery voltage when the battery is in the open state. Claim 18 further requires a load driven with

the electric power accumulated in the electric condenser. No corresponding structural and functional combination is disclosed or suggested by the prior art of record as set forth above for claims 1-3 and 5-7.

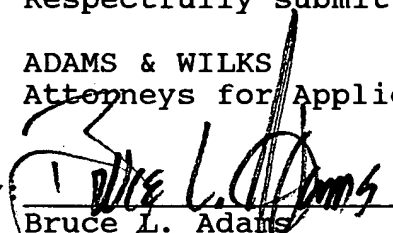
Claims 19-20 depend on and contain all of the limitations of independent claim 18 and, therefore, distinguish from the prior art of record at least in the same manner as claim 18.

In view of the foregoing amendments and discussion, the application is believed to be in allowable form. Accordingly, favorable reconsideration and allowance of the claims are most respectfully requested.

Respectfully submitted,

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OCTOBER 24, 2006

Date